



PCT

INTERNATIONAL PRELIMINARY EXAMINATION REPORT
(PCT Article 36 and Rule 70)

Applicant's or agent's file reference RSJ07330WO		FOR FURTHER ACTION See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)	
International application No. PCT/GB 03/01459	International filing date (day/month/year) 03.04.2003	Priority date (day/month/year) 03.04.2002	
International Patent Classification (IPC) or both national classification and IPC B42D15/10			
Applicant DE LA RUE INTERNATIONAL LIMITED ET AL.			
<p>1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.</p> <p>2. This REPORT consists of a total of 4 sheets, including this cover sheet.</p> <p><input checked="" type="checkbox"/> This report is also accompanied by ANNEXES, i.e. sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).</p> <p>These annexes consist of a total of 2 sheets.</p>			
<p>3. This report contains indications relating to the following items:</p> <ul style="list-style-type: none">I <input checked="" type="checkbox"/> Basis of the opinionII <input type="checkbox"/> PriorityIII <input type="checkbox"/> Non-establishment of opinion with regard to novelty, inventive step and industrial applicabilityIV <input type="checkbox"/> Lack of unity of inventionV <input checked="" type="checkbox"/> Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statementVI <input type="checkbox"/> Certain documents citedVII <input type="checkbox"/> Certain defects in the international applicationVIII <input type="checkbox"/> Certain observations on the international application			
Date of submission of the demand 15.10.2003		Date of completion of this report 18.06.2004	
Name and mailing address of the international preliminary examining authority:  European Patent Office D-80298 Munich Tel. +49 89 2399 - 0 Tx: 523656 epmu d Fax: +49 89 2399 - 4465		Authorized Officer Achermann, D Telephone No. +49 89 2399-2029 	

**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT**

International application No. PCT/GB 03/01459

I. Basis of the report

1. With regard to the **elements** of the international application (*Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17)*):

Description, Pages

1-19 as originally filed

Claims, Numbers

18 (part), 19-31 as originally filed

1-17, 18 (part) received on 18.03.2004 with letter of 17.03.2004

Drawings, Sheets

1/11-11/11 as originally filed

2. With regard to the **language**, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language: , which is:

- ☐ the language of a translation furnished for the purposes of the international search (under Rule 23.1(b)).
- ☐ the language of publication of the international application (under Rule 48.3(b)).
- ☐ the language of a translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- ☐ contained in the international application in written form.
- ☐ filed together with the international application in computer readable form.
- ☐ furnished subsequently to this Authority in written form.
- ☐ furnished subsequently to this Authority in computer readable form.
- ☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
- ☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. The amendments have resulted in the cancellation of:

- ☐ the description, pages:
- ☐ the claims, Nos.:
- ☐ the drawings, sheets:

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5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)).

(Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.)

6. Additional observations, if necessary:

V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes: Claims	10, 16, 17, 22
	No: Claims	1-9, 11-15, 18-21, 23-31
Inventive step (IS)	Yes: Claims	
	No: Claims	1-31
Industrial applicability (IA)	Yes: Claims	1-31
	No: Claims	

2. Citations and explanations

see separate sheet

**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT - SEPARATE SHEET**

International application No. PCT/GB03/01459

Re Item V:

- 1 Reference is made to the following document:

D1: WO-A-0200445.

- 2 The subject-matter of claims 1-9, 11-15, 18-21, 23-31 is not new (Article 33(2) PCT).

Claim 1:

D1 discloses (see in particular p. 1 lin. 4-p. 2 lin. 26, p. 3 lin. 31-p. 4 lin. 8, p. 6 lin. 12-21, p. 10 lin. 19-21, p. 13 lin. 31-p. 17 lin. 35, figures) a security device comprising first and second superposed diffractive or holographic optically variable effect generating structures (20,22,23; 24), each having a surface relief microstructure, the second diffractive or holographic optically variable effect generating structure (24) being viewable through the first.

The second diffractive or holographic optically variable effect generating structure (24) is not flat, but has the same relief structure as the first diffractive or holographic optically variable effect generating structure (20). If a thin film is coated on a relief structure, this thin film will have the same relief structure. This can additionally be seen in figure 4A of D1.

Claims 2-9, 11-15, 18-21, 23-31:

The subject-matter of claims 2-9, 11-15, 18-21, 23-31 is known from D1.

- 3 The subject-matter of claims 10, 16, 17 and 22 does not involve an inventive step in the sense of Article 33(3) PCT, the reasons being as follows:

In claims 10, 16, 17 and 22 slight changes are defined which come within the scope of the customary practice followed by persons skilled in the art, especially as the advantages thus achieved can readily be foreseen. Consequently, the subject-matter of claims 10, 16, 17 and 22 lacks an inventive step.

CLAIMS

1. A security device comprising at least first and second superposed diffractive or holographic optically variable effect generating structures, each having a surface relief microstructure, the second optically variable effect generating structure being viewable through the first.
2. A device according to claim 1, wherein the first optically variable effect generating structure includes a discontinuous metallic layer.
3. A device according to claim 1, wherein the first optical variable effect generating structure includes a reflective layer formed by a high refractive index dielectric material.
4. A security device according to claim 3, wherein the first optically variable effect generating structure comprises a substantially pure grating structure in combination with a high refractive index dielectric layer and the second optically variable effect generating structure comprises one of a classical hologram, a zero-order diffractive device, or a Fresnel structure.
5. A device according to any of the preceding claims, wherein the first and second optically variable effect generating structures comprise complementary zero-order diffractive devices.
6. A device according to any of the preceding claims, wherein the first and second optically variable effect generating structures generate orthogonal holographic images, typically originated by classical holography.
7. A device according to any of the preceding claims, wherein the second optically variable effect generating structure includes an opaque, reflective layer.
8. A device according to any of the preceding claims, wherein the first and second optically variable effect generating structures are laminated together.

9. A device according to any of the preceding claims, wherein the first and second surface relief microstructures have been originated by different processes.

10. A device according to any of the preceding claims,
5 wherein the first and second surface relief microstructures have been originated by one of dot matrix interferometry, lithographic interferometry, e-beam lithography and classical rainbow lithography.

11. A device according to any of the preceding claims,
10 further comprising a carrier layer supporting the first and second optically variable effect generating structures.

12. A device according to claim 11, wherein the carrier layer is secured to the first and second optically variable effect generating structures via a release layer.

13. A device according to any of the preceding claims,
15 wherein one or more of the optically variable effect generating structures is formed in a respective lacquer layer.

14. A device according to any of the preceding claims,
20 wherein at least one of the optically variable effect generating structures is formed in a polymer material.

15. A device according to any of the preceding claims, further comprising an adhesive layer to enable the device to be secured to a substrate.

16. A device according to any of the preceding claims,
25 further comprising a dye or pigment providing in or between layer(s) of the optically variable effect generating structures.

17. A device according to any of the preceding claims,
30 further comprising one or more additional optically variable effect generating structures provided between the first and second optically variable effect generating structures.

18. A method of manufacturing a security device, the
35 method comprising providing at least first and second superposed diffractive or holographic optically variable effect generating structures, each having a surface relief microstructure, whereby the